

Farm, Garden and Orchard Implements

Bateman & Companies, Inc.

347 Madison Avenue
NEW YORK CITY

Manufacturers of

IRON AGE Cultivators, Potato Machinery, Sprayers, Planters, Garden Tools, etc.; CHICOPEE LINE Plows, Corn Huskers and small farm implements; McWHORTER Fertilizer Distributors, Seed Drills and Potato Planters; WILKINSON Plows, Scrapers, Wheelbarrows, etc.; CLARK Cotaway Harrows; CURTIS "Easy-Pull" Manure Spreaders; WORCESTER-BUCKEYE Mowers; ACME Pulverizing Harrows, etc., etc.

District Sales Headquarters:

New York City,
Greenloch, N. J.; Worcester, Mass.;
Chicopee Falls, Mass.

P. M. NO. 42-23 M-7-26

Worcester Ensilage Cutter

Blower
Type



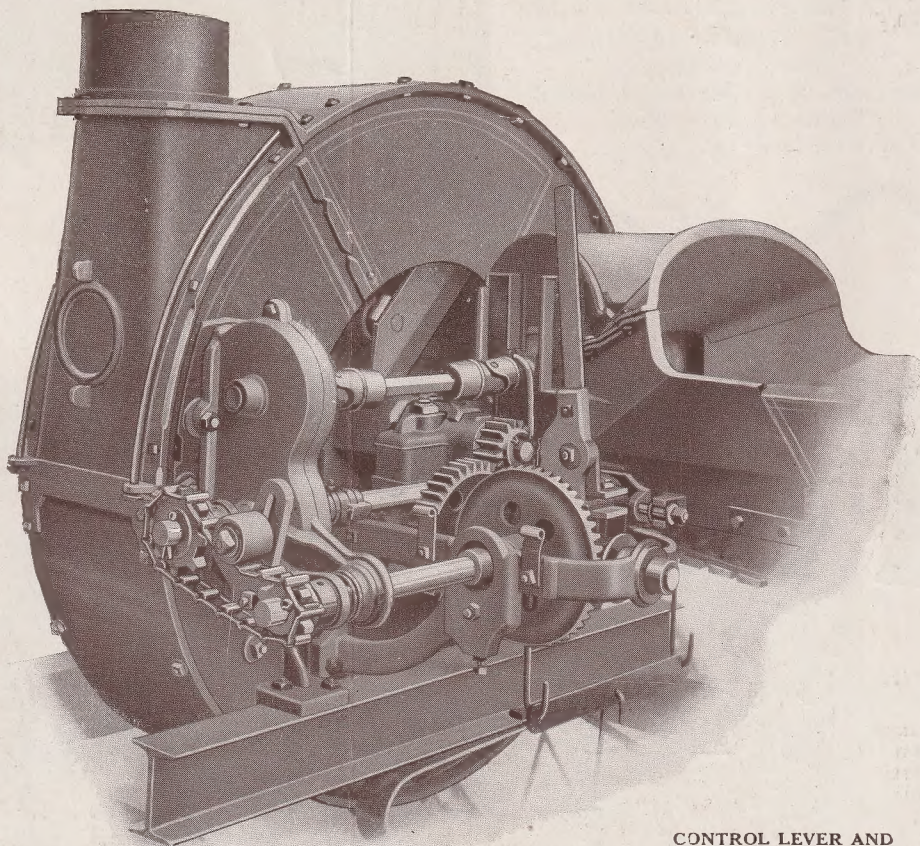
Property of Jason A. Kim



THE cost of an Ensilage Cutter is moderate, and the yearly returns on the investment are large when compared with the expense of hiring a cutter for filling and re-filling. Slow filling is considered to be much the best, and farmers generally prefer to own their own machines so they can fill the silo slowly as the corn becomes ready. The ensilage has an opportunity to settle and more can be put into the silo, as it will settle six to eight feet in a thirty-foot silo, and unless the cutter is at hand again for re-filling, about one-fifth of the capacity of the silo is lost. This also helps to make the ensilage closely packed, excluding air-holes that would cause it to spoil.

Corn is the leading silo crop in all sections where it can be successfully grown. Silage corn should be harvested when the kernels become glazed or dented, as the entire stalk and grain has the greatest feeding value at this stage. Much value of ensilage is lost by filling the silo too early or too late, often-times enough to pay for the cutter. Loss due to cutting too green and having dark-colored, sour ensilage, is usually more than cutting when too ripe, as the use of water in the latter case will prevent molding. Ensilage keeps better when cut fine (about $\frac{1}{2}$ -inch). Good clean silage of uniform length cannot be expected unless knives and shear plate of the machine are sharp and in close adjustment. Silos must always be air tight and the ensilage packed by trampling, especially around the outside walls, to exclude the air.

Having combined with a number of prominent Eastern manufacturers of agricultural implements, the "Worcester Line" sales and distribution facilities have been greatly extended, so that machines, parts, etc., will be within closer reach of the dealer and can be obtained more quickly. A single order can include tools and implements of many types, and the entire farm can be equipped with implements and tools of a single make. These ensilage cutters are but a part of our entire line of agricultural implements. We have separate booklets covering each part of the line. Ask for any or all of them and for any information or suggestions you want. Address the general office, or nearest sales branch, addresses on back cover.



CONTROL LEVER AND
FEED GEARING

WORCESTER BLOWER TYPE ENSILAGE CUTTER

POWER AND CAPACITY

Every detail of the Worcester Ensilage Cutter has been worked out with three aims in view: Safety, Durability, and the Least Power required per ton of ensilage. None of these conflicts with the others, so we have naturally bent our efforts to making the Worcester a light draft cutter. No blower-cutter will deliver more ensilage per horse-power than the Worcester. Bear in mind that a small machine may be over-crowded and use more power in dragging the corn or other ensilage through the feed rolls than it takes to cut and elevate the same. If you want to cut eight tons per hour, you will use less power if you have a machine big enough to handle this than to crowd it through a machine too small. On the other hand, it is not profitable to buy a larger blower-cutter than you have power to handle, for when the edge is gone from the knives or the silage hard to cut, you need power in reserve or else you are obliged to feed lightly.

SAFETY

Good construction makes a safe blower to operate. The Worcester is safe in every way. A lever at the operator's hand reverses the feeding mechanism instantly, insuring safety from the knives. Every Worcester Blower is tested at a much higher speed than it ever will be run. Experience has shown that the greatest danger of an ensilage cutter of any kind comes from the cleaning of leaves wound around the shafts and gears while the cutter is in motion. The shafts and feed gears on the Worcester are so protected and covered that it is practically impossible to get silage into them, and there is little danger from this source.

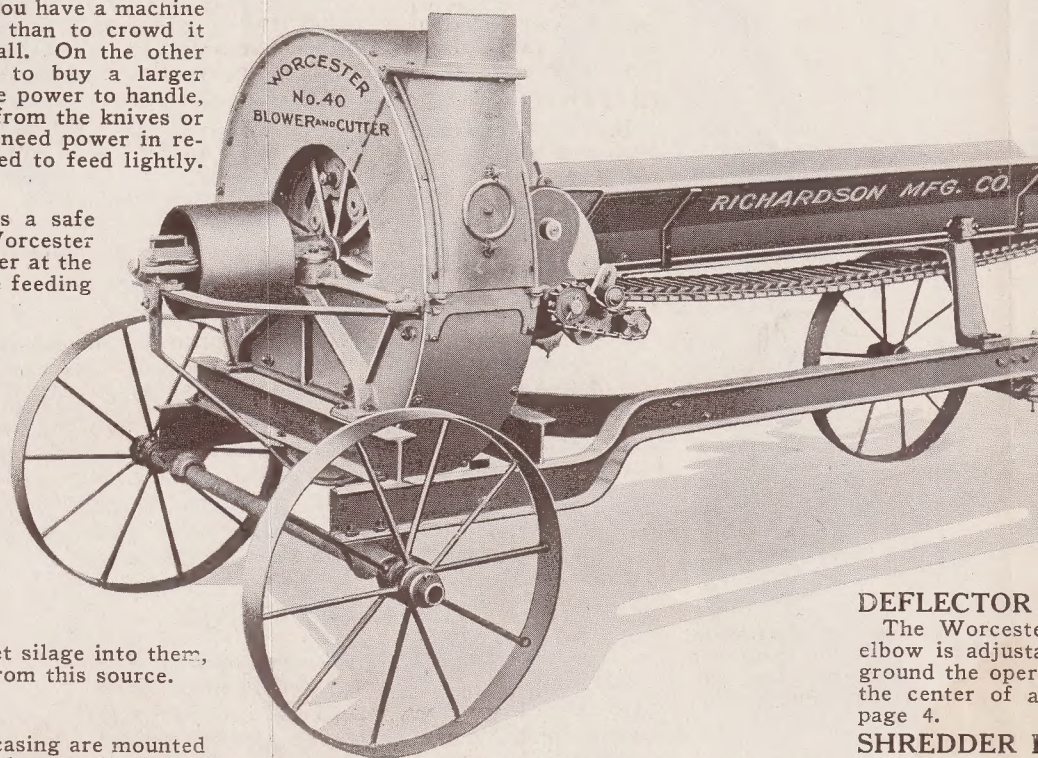
FRAME

The main boxes and the casing are mounted on heavy iron casting holders, well ribbed, which in turn are bolted to steel I beams. This frame is substantial and cannot warp out of shape.

DISC

The heavy disc, sometimes called the "fly wheel," is made with ribs running from the rim to the center and a circular rib between the rim and center. It carries the cutting knives as shown in the illustration, page 3, and also carries the fans. This disc is solid, very thick, and is perfectly balanced. Careful construction of this important part gives our Blower-Cutter stability, reduces friction to a minimum, and makes a smooth running machine with large capacity. The malleable fans are bolted to the disc on the two larger sizes, and are cast in one piece with the disc on the No. 30 Blower. The balancing of the disc is done after the fan blades and knives are attached.

THE WORCESTER PNEUMATIC ENSILAGE CUTTER
efficiency and economy in silo filling. The cutter out conforms to the highest standards. The fans are mounted on the same wheel. This design saves machine without sacrificing weight in material. The malleable drive to the cut ensilage, forcing it to the silo. The Worcester Blower-Cutter is substantial, made of malleable iron, and cold rolled steel. Very little



DEFLECTOR

The Worcester deflector elbow is adjustable to ground the operator can adjust the center of a silo. page 4.

SHREDDER

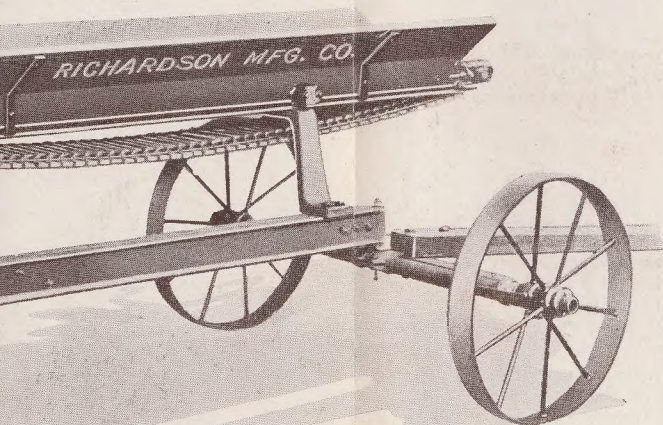
Are intended for shredding and are furnished with a

SIZES AND SPECIFICATIONS

	No. 30	No. 40	No. 50
Tons, per hour	4—6	6—8	8—10
Horse power	6—8	8—10	10—12
Revolutions per minute...	900	900	900
Width of throat	9	10	11
Pulley, inches	8	10	12
Length of cut, inches....	1/2, 3/4, 1	1/2, 3/4, 1	1/2, 3/4, 1
	1 1/4, 1 1/2	1 1/4, 1 1/2	1 1/4, 1 1/2
Weight skidded, pounds ..	1035	1035	1035

POWER TYPE ENSILAGE CUTTERS

OUR PNEUMATIC ENSILAGE CUTTER stands for economy in silo filling. The construction throughout the highest standards. The fans and cutting blades on the same wheel. This design gives us a compact machine sacrificing weight in materials, and gives a tremendous cut ensilage, forcing it to the top of the highest silo. The Blower-Cutter is substantially built of gray iron, and cold rolled steel. Very little sheet metal is used.



DEFLECTOR

The Worcester deflector or distributor elbow is adjustable. By a rope from the ground the operator throws the silage into the center of any size silo. See cut on page 4.

SHREDDER KNIVES

Are intended for shredding dry corn fodder and are furnished on request.

SIZES AND SPECIFICATIONS

	No. 30	No. 40	No. 50
Four	4—6	6—8	8—12
Per minute...	6—8	8—10	10—12
Roat	900	800	750
es	9	11	13
ut, inches....	8	9	10
	$\frac{1}{2}$, $\frac{3}{4}$, 1	$\frac{1}{2}$, $\frac{3}{4}$, 1	$\frac{1}{2}$, $\frac{3}{4}$, 1
	$1\frac{1}{4}$, $1\frac{1}{2}$	$1\frac{1}{4}$, $1\frac{1}{2}$	$1\frac{1}{4}$, $1\frac{1}{2}$
dded, pounds ..	1035	1740	1845

KNIVES

Straight, firmly secured to the disc by knife posts and Norway iron bolts. Knives shear from the outer to the inner end, meeting the cutting plate at the outer end first, where the momentum of the disc is greatest, and cut toward the inner end of the shear plate. The silage is therefore propelled in the direction of the revolving disc and less of its momentum expended against the circular casing. The knives stand $3\frac{3}{4}$ inches from the disc and make plenty of space for cut corn back of the knives.

CASING

The sides of the casing are of chilled iron, insuring long service without material signs of wear. The circumference of the casing is of No. 12 gauge plate steel at the bottom where wear is greatest and No. 16 gauge on top where wear of the cut corn is not so great.

OUTSIDE BEARING

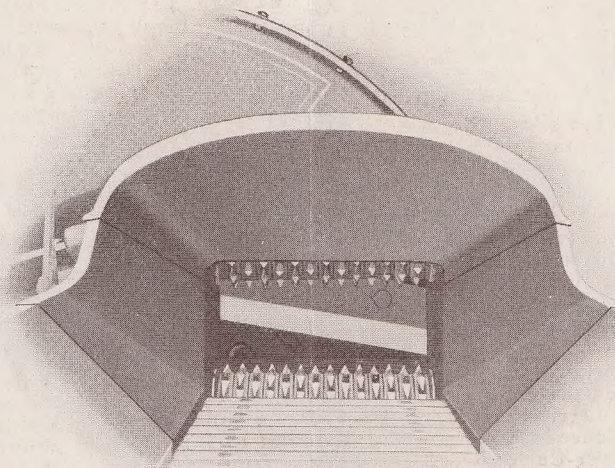
It is generally assumed that the larger machines will be used with large engines. The weight and pull of the belt is therefore greater, and to insure perfect alignment of the main shaft we use the outside bearing shown in the large illustration.

FEED GEARS

Heavy and securely held in alignment. Quiet running. Ample provision for lubrication and adjustment for wear.

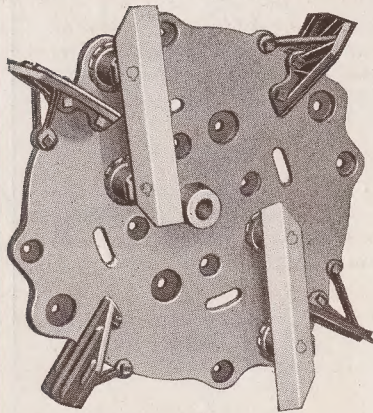
FEED ROLLS

The feeding rolls are cast in sections, having long hooked teeth to split the stalks, and are self-cleaning. The upper roll, under tension of a heavy spring, adjusts itself automatically as shown in the illustration. The roll raises itself horizontally or obliquely, presses the fodder down and makes it compact while being cut. The speed of the feed rolls changes with the speed table, by a lever at the hand of the operator.



UPPER FEED ROLLER RAISED SHOWING ONE OF THE KNIVES

THE WORCESTER BLOWER CUTTER



DISC AND KNIVES

FEED TABLE

The traveling feed table is extra long, 75 inches on the No. 30, and 95 inches on the No. 40 and No. 50. This takes 10-foot corn with very little of the stalk hanging over. Wooden slats are used, which hold green fodder better than steel slats, especially when the fodder is a little wet. The self-feed table makes easy work for the operator.

TRUCK

Machines are shipped on skids or mounted on wheels, as shown. The Worcester mounting is strongly constructed of steel channel, raising the feed table to just the convenient height from the ground. This mounting is stable, as the pull of the belt is across the wheels and not in the direction that the wheels move. The pull of the engine settles the rims of the wheels into the ground. Diameter of wheels 24 inches. The traveling feed table is not taken off when moved, and the machine is ready to work as soon as the pipe is up.

INSIDE DISTRIBUTOR

Shown herewith, is of great aid in the even distribution of the silage in the silo. One man with this distributor will do the work of two in the silo, as he places the silage exactly where he wants it. This is also used when feeding from the silo as a conveyor for conducting the silage into a carrier or cart.

SPECIAL DEFLECTOR

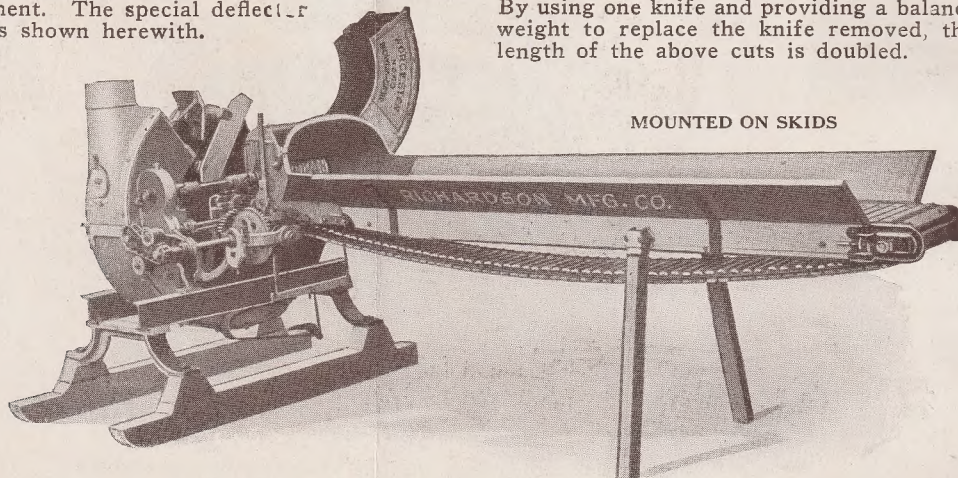
For use in connection with the inside distributor a special deflector is required, as the regular deflector shown herewith is not adapted to the weight of this attachment. The special deflector is shown herewith.

KNIFE GRINDER

The Worcester knife grinder is a time saver and often prevents using an extra set of knives while one set is being ground. The grinder is attached to the blower, and only a few minutes a day is required to keep the knives in good cutting condition.

LENGTH OF CUT

The length of cut may be varied, making $\frac{1}{2}$, $\frac{3}{4}$, 1, $1\frac{1}{4}$, $1\frac{1}{2}$ inch. This is obtained by using the sprockets included in the regular equipment. By using four knives the above lengths of cut are increased by one-half. By using one knife and providing a balance weight to replace the knife removed, the length of the above cuts is doubled.



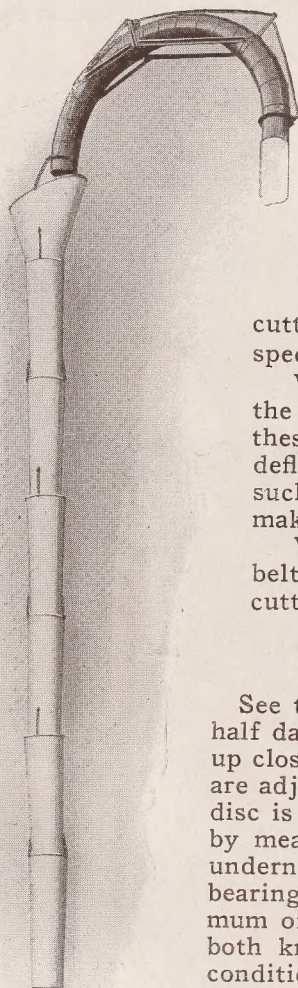
MOUNTED ON SKIDS



THE WORCESTER ENSILAGE CUTTER

GENERAL INFORMATION

THE best results are obtained by placing the cutter close to the silo, so that the pipe will be perpendicular. A Worcester Ensilage Cutter both throws and blows.



SPECIAL DEFLECTOR
WITH
INSIDE DISTRIBUTOR

When running at speed it will throw the ensilage possibly 15 or 20 feet, and the air carries it the remainder of the height. Therefore the friction of the ensilage against the pipe must be considered; the straighter the pipe the more silage you can deliver with the same power. In case the

cutter must be located some distance from the silo we supply a special deflector with a 6-foot reach.

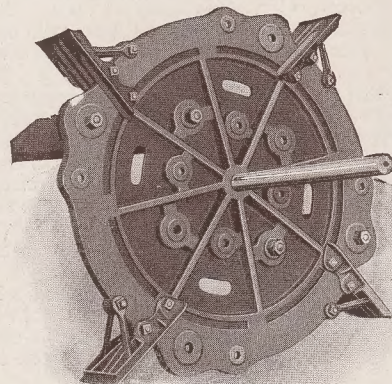
When erecting, brace the pipe to prevent its swaying, and brace the cutter against the pull of the belt. Be careful of back drafts, as these sap the power or cause the blower to plug. Should you turn the deflector against a wall, or should you hang burlap over the end in such a way that it will retard the air coming from the pipe, you make a back draft that eats up the power.

Whenever possible, place the engine so that the pull of the belt is toward the knives or away from the pipe. This holds the cutting knives against the bed plate.

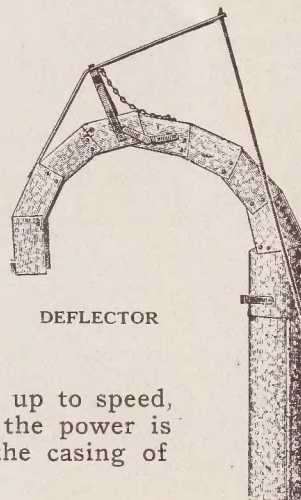
ADJUSTMENT OF KNIVES

See that the knives are sharpened every half day, and that both knives are brought up close to the bed plate. The knife posts are adjustable in themselves, and the main disc is brought up closer to the bed plate by means of an adjustment between and underneath the drive pulley and the main bearing. Good clean cutting with a minimum of power cannot be expected unless both knives and shear plate are in good condition and in close adjustment with each other.

Don't commence to feed until the cutter is up to speed, and discontinue feeding long enough before the power is shut off to give the fans a chance to clear the casing of silage.



DISC AND ARBOR, REAR VIEW



DEFLECTOR